

We Claim:

1. A process for improving the solderability of a metal surface, said process comprising
treating the metal surface with an immersion silver plating solution, said solution
comprising:
 - a). a soluble source of silver ions;
 - b). an acid;
 - c). an additive selected from the group consisting of fatty amines, fatty
amides, quaternary salts, amphoteric salts, resinous amines, resinous
amides, fatty acids, resinous acids, ethoxylated versions of any of the
foregoing, propoxylated versions of any of the foregoing and mixtures of
any of the foregoing.
2. A process according to claim 1 wherein the silver plating solution also comprises material
selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives
and benzimidazole derivatives.
3. A process according to claim 1 wherein the silver plating solution also comprises an
oxidant.
4. A process according to claim 1 wherein the metal surface comprises copper.
5. A process according to claim 1 wherein the additive is selected from the group consisting
of ethoxylated tallowamine, ethoxylated cocoamine, tallow amine, cocoamine, amines
derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid,
oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl)

dimethyl hydroxyethylammonium dihydrogen phosphate, alkyliminodipropionic acid monosodium salts, and mixtures of the foregoing.

6. A process according to claim 4 wherein the silver plating solution also comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.
7. A process according to claim 6 wherein the silver plating solution also comprises an oxidant.
8. A process according to claim 7 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, tallow amine, cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl) dimethyl hydroxyethylaminium dihydrogen phosphate, alkyliminadipropionic acid monosodium salts, and mixtures of the foregoing.
9. A process for improving the solderability of a metal surface, said process comprising:
 - a. contacting the metal surface with an immersion silver plating solution thereby producing an immersion silver plate upon the metal surface; and thereafter
 - b. treating the immersion silver plated metal surface with a solution comprising an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphatic salts, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, and mixtures of any of the foregoing.

10. A process according to claim 9 wherein the silver plating solution comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives and benzimidazole derivatives.
11. A process according to claim 9 wherein the silver plating solution also comprises an oxidant.
12. A process according to claim 9 wherein the metal surface comprises copper.
13. A process according to claim 9 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, tallow amine, cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl) dimethyl hydroxyethylaminium dihydrogen phosphate, alkyliminadipropionic acid monosodium salts, and mixtures of the foregoing
14. A process according to claim 12 wherein the silver plating solution comprises a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.
15. A process according to claim 14 wherein the silver plating solution also comprises an oxidant.
16. A process according to claim 15 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, tallow amine, cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil,

(stearamidopropyl) dimethyl hydroxyethylaminium dihydrogen phosphate, alkyliminadipropionic acid monosodium salts, and mixtures of the foregoing.

17. An immersion silver plating solution comprising an additive selected from the group consisting of fatty amines, fatty amides, quaternary salts, amphaticer sales, resinous amines, resinous amides, fatty acids, resinous acids, ethoxylated versions of any of the foregoing, and mixtures of any of the foregoing.

18. An immersion plating solution according to claim 17 also comprising a material selected from the group consisting of imidazoles, benzimidazoles, imidazole derivatives, and benzimidazole derivatives.

19. An immersion plating solution according to claim 18 also comprising an oxidant.

20. An immersion plating solution according to claim 19 wherein the additive is selected from the group consisting of ethoxylated tallowamine, ethoxylated cocoamine, amines derived from tall oil acids, ethoxylated amines derived from tall oil acids, stearic acid, oleic acid, palmitic acid, acids derived from the distillation of tall oil, (stearamidopropyl) dimethyl hydroxyethylaminium dihydrogen phosphate, alkyliminadipropionic acid monosodium salts, and mixtures of the foregoing.